REMARKS

In the last Office Action, the Examiner rejected claims 1, 3, 4, 6, 8, and 10 under 35 U.S.C. § 102(e) as being anticipated by Shloush et al. (U.S. Patent No. 6,297,612); rejected claims 2, 5, 7, 9, 13, and 14 under 35 U.S.C. § 103(a) as being unpatentable over Shloush et al. and Brekosky et al. (U.S. Patent No. 6,431,879); and indicated that claims 11, 12, 15, and 16 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

By this Amendment, Applicants have canceled non-elected claim 17 without disclaimer or prejudice for the subject matter thereof. Applicants have also further defined the invention of claim 4 and have amended claim 15 to improve grammar. The amendments to claim 15 have not been made for purposes of patentability or in response to any prior art, rejections, or objections.

Applicants respectfully traverse the rejection of claims 1, 3, 4, 6, 8, and 10 under 35 U.S.C. § 102(e) as being anticipated by Shloush et al. for at least the reason that Shloush et al. fails to disclose every claim element. For example, independent claims 1 and 4 both recite a combination of elements including, *inter alia*, a scalable motion controller including means for inserting and removing one or more motion control processors from the scalable motion controller. Shloush et al. fails to disclose at least this element.

In motion control system embodiments consistent with the present invention, drive units (e.g., a motor, encoder, and amplifier) provide motion to a part of a system or apparatus. The signals that control the drive units come from motion control processors disposed within one or more motion controllers. (Spec., ¶ 18.) In one configuration,

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

each motion control processor controls a different drive unit such that there is at least one motion control processor for each drive unit.

Because the number of drive units required for a particular application may vary, the number of motion control processors needed also may vary. In traditional systems, each motion controller contained a fixed number of motion control processors. (Spec., ¶ 5.) Thus, there was no way to vary the number of processors included in a single motion controller. While additional processors could be added to a system by linking together multiple motion controllers, the number of processors included within each motion controller could not be varied. Thus, traditional systems nearly always operated with more processors than necessary to control the number of drive units in the system. (*Id.*)

A motion controller consistent with the present invention is scalable such that only the number of processors required for a particular system need be used. Such a motion controller is scalable in at least two ways. First, using a set of connectors in the motion controller, the number of processors included in a single motion controller can be varied. Second, the number of motion controllers included in the motion control system may be varied. For example, for a three axis system including three drive units, three motion control processors can be added to the motion controller. If the number of processors needed in a motion control system exceeds the number of motion control processors that can be added to a single motion controller, one or more additional controllers may be added to the system to increase the capacity for additional processors. (Spec., ¶ 28.)

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

The motion control system of Shloush et al. is an example of a traditional motion control system, as described in paragraph 5 of the specification. Specifically, while Shloush et al. implies that additional motion controllers may be linked to a motion controller 30, Shloush et al. fails to disclose any means for varying the number of motion control processors included within each motion controller. For example, Shloush et al. fails to show or describe any means on a mother board 68 (Fig. 8) of motion controller 30 to enable adding or removing motion control processors from motion controller 30.

In the Section 102(e) rejection of claims 1, 3, 4, 6, 8, and 10, the Examiner has not addressed each claim element. For example, in the remarks explaining the Section 102(e) rejection of claim 1, the Examiner states that Shloush et al. "discloses a motion controller comprising electrical connectors for removing and adding circuit drives ... and stacking a plurality of circuit drives." Whether or not Shloush et al. discloses means for adding and removing circuit drives 40, 50, etc. is irrelevant to whether Shloush et al. discloses "means for inserting and removing one or more motion control processors from the scalable motion controller," as included in claim 1. The drive units 40, 50, etc. of Shloush et al. do not constitute motion control processors for at least the reason that they do not generate command signals that control the motion of the motors. In Shloush et al., the command signals that drive each of the drive units are produced by motion controller 30. (col. 5, lines 21-25.)

Because Shloush et al. fails to disclose every element of claims 1, 3, 4, 6, 8, and 10, the Section 102(e) rejection of these claims is improper and should be withdrawn.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

Applicants also respectfully traverse the rejection of claims 2, 5, 7, 9, 13, and 14 under 35 U.S.C. § 103(a) as being unpatentable over Shloush et al. and Brekosky et al. No *prima facie* case of obviousness has been established with respect to claims 2, 5, 7, 9, 13, and 14 for at least the reasons that no combination of Shloush et al. and Brekosky et al. teaches or suggests every claim element. For example, claims 2, 5, 7, and 9 include, *inter alia*, means for inserting and removing one or more motion control processors from the scalable motion controller, and claims 13 and 14 include, *inter alia*, a scalable motion controller that has a plurality of dip sockets arranged for inserting and removing one or more motion control processors. Shloush et al. fails to disclose or suggest a plurality of dip sockets or other means arranged for inserting and removing one or more motion control processors from the scalable motion controller. Shloush et al., in fact, fails to disclose or suggest modifying multi-axis motion controller 30 in any way to accommodate more or fewer drive circuits 40, 50, etc.

Like Shloush et al., Brekosky et al. also fails to disclose or suggest a plurality of dip sockets or other means arranged for inserting and removing one or more motion control processors from the scalable motion controller. While Brekosky et al., discloses "terminal receiving cavities 30" for receiving male terminals 32 of other connectors 4, 6, 14, 15, or 16, Brekosky et al. fails to disclose or suggest that terminal receiving cavities 30 could be included in a motion controller for adding and removing motion control processors. In fact, in the device of Brekosky et al., terminal receiving cavities 30 are provided for the sole purpose of enabling stacking of multiple circuit boards. (col. 3, lines 11-20; col. 4, lines 15-19). Brekosky et al., which fails to even discuss motion

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

control processors, fails to disclose inserting or removing motion control processors from terminal receiving cavities 30.

Because neither Shloush et al. nor Brekosky et al., taken together or singly, teaches or suggests every claim element, no *prima facie* case of obviousness has been established with respect to claims 2, 5, 7, 9, 13, and 14. Accordingly, the Section 103(a) rejection of these claims is improper and should be withdrawn.

In view of the foregoing, Applicants respectfully request reconsideration and reexamination of this application and timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, L.L.P.

Dated: November 10, 2003

By: _____
Darren M. Jiron
Reg. No. 45,777

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com